

REMARKS

The claims have been amended to specify that the one or more filters having a Zeta Potential between 0 and -5 millivolts is (are) the sole filter(s) utilized to filter said fluid. This language excludes the use of a filter having a positive Zeta Potential for filtering the fluid.

Applicants' invention is based upon the discovery that by controlling the Zeta Potential of a single filter in a fluid, both positively charged and negatively charged particles can be removed from the fluid by a mechanism other than the sieving effect of the filter. The Examiner's attention is called to Figs. 6 and 7 wherein removal of both negatively charged (Fig. 6) particles and positively charged (Fig. 7) particles can be removed to a level of at least 3 LRV utilizing a single filter having a Zeta Potential between 0 and -5 millivolts. The results shown in Figs. 6 and 7 form the basis for applicants' claims. More than one of these filters can be utilized to filter the fluid.

Claims 58-63, 69-72, 74 and 78 have been rejected under 35 USC 102 or 35 USC 103(a) as being obvious over Pall et al US 4,431,545. It is the Examiner's position that Pall ('545) discloses filtering a fluid containing charged particles through filters having a zeta potential between 0 and 5 mV or less than 20 mV while the instant application discloses the use of filters having a zeta potential of between -10 mV and 10 mV.

In contrast to applicants', Pall ('545) requires the use of two different filters for filtering a fluid containing particles. Pall ('545) requires a filter having a positive zeta potential in conjunction with a filter having a negative zeta potential. Applicants have discovered that only one or more filters, each having a zeta potential between 0 and -5 mV are useful for removing both positively charged particles and negatively charged particles. Thus, a filter having a positive

Zeta Potential is not required. This discovery is not suggested by Pall et al ('545). Accordingly, this ground of rejection should be withdrawn.

Claims 64, 65 and 75-77 have been rejected under 35 USC 103(a) over Pall et al ('545) in view of Mayhan (US 4,311,573). Pall et al ('545) is discussed above. It is the Examiner's position that Mayhan teaches surface modifications of filters and that it would be obvious to so-modify the Pall et al ('545) membranes. Mayhan does not supply the deficiencies of Pall et al ('545) in that there is no suggestion of using one or more membranes each having a Zeta Potential with the 0 to -5 millivolt range as the sole filter. Accordingly, this ground of rejection should be withdrawn.

Claims 66 and 68 have been rejected under 35 USC 103(a) over Pall et al ('545) in view of McKay (US 5,582,728). It is the Examiner's position that Pall et al ('545) does not disclose ceramics or metals as filter media but that McRay does. McRay does not supply the deficiencies of Pall et al ('545) in that there is no suggestion of using one or more membranes each having a Zeta Potential within the 0 to -5 millivolt range as the sole filter. Accordingly, this ground of rejection should be withdrawn.

Claim 67 has been rejected under 35 USC 103(a) over Pall ('124) in view of Pall (US 4,430,479). It is believed that (124) is a typographical error and that (545) was meant. It is the Examiner's position that Pall et al ('545) does not disclose cellulosic materials for the filter but that Pall ('479) teaches such cellulosic filter. Pall et al ('479) does not supply the deficiencies of Pall et al ('545) in that there is no suggestion of using one or more membranes each having a Zeta Potential with the 0 to -5 millivolt range as the sole filter. Accordingly, this ground of rejection should be withdrawn.

Claim 73 has been rejected under 35 USC 103(a) over Pall et al ('545) in view of Pall et al ('124). It is the Examiner's position that Pall et al ('545) teaches all the claim limitation except the use of monomers such as acrylamide but that

Pall et al ('124) teaches acrylamide. Pall et al ('545) does not supply the deficiencies of Pall et al ('124) in that there is no suggestion of using one or more membranes each having a Zeta Potential with the 0 to -5 millivolt range as the sole filter.

In view of the above, it is submitted that Applicants' claims define patentable subject matter and an early Notice of Allowance is respectfully requested.

Respectfully submitted.

By 

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